

## ABSTRACT

For PMR (Perpendicular Magnetic Recording) design, one of the major technology problems is the use of CMP to fabricate the pole structure. If the device is under-polished there is a danger of leaving behind a magnetic shorting layer while if it is over-polished there may be damage to the main pole. This problem has been overcome by surrounding the main pole, write gap, stitched write head pillar with a layer of CMP etch stop material which, using optical inspection alone, allows CMP (performed under a first set of conditions) to be terminated just as the stitched write head gets exposed. This is followed by a second CMP step (performed under a second set of conditions) for further fine trimming of the stitched head, as needed.